IN THE CLAIMS:

Kindly cancel claims 1-4, and amend claims 5-7 as follows:

1-4. (Cancelled)

5. (Currently Amended) [[The]] An iontophoresis system for non-invasively extracting a physiological substance out of a living body comprising:

[[two]] a first electrode structure having a physiological extraction pad thereon, said first electrode structure ~~structures~~ affixed to a first fixing member,

a second electrode structure affixed to a second fixing member, said second fixing member hingedly engaged with said first fixing member at a hinge connection so as to form a cross shape,

~~fixing members fixing the electrode structures,~~

a spring member in attachment to ~~provided between~~ the first fixing ~~members~~ member and the second fixing member, on one side of the hinge connection, so as ~~arranged~~ to ~~rotatably cross~~ bias the first electrode structure and the second electrode structure together ~~each other~~, and

a power supply device connected to the electrode structures,

~~wherein at least one of the electrode structures has a physiological substance extraction pad applied to a mucous membrane~~.

6. (Currently Amended) The iontophoresis system according to claim 5, wherein one of the first electrode structures is provided for the mucous membrane of the mouth, and the ~~other~~ second electrode structure is provided for the skin.

7. (Currently Amended) A method of analyzing a physiological substance using the iontophoresis system of claim 5 to non-invasively remove a physiological substance from a living body for analysis, comprising:

applying [[a]] the physiological substance extraction pad to a mucous membrane,

applying electric energy of 10 volts or less to the living body via the pad for 30 seconds to 20 minutes by [[the]] iontophoresis, and

quantifying or qualitatively measuring a physiological substance extracted in the pad.

8. (Original) The method of analyzing a physiological substance according to claim 7, wherein the physiological substance extraction pad is used to extract glucose.

9. (Previously Presented) The method of analyzing a physiological substance according to claim 7, wherein the physiological substance extraction pad is adapted to be applied to a mucous membrane of a mouth.

Kindly add new claims 10-14 as follows:

10. (New) The iontophoresis system according to claim 5, wherein the electrode structure having the first electrode further comprises a device quantifying the physiological substance or a device qualitatively measuring the physiological substance.

11. (New) The iontophoresis system according to claim 5, wherein the physiological substance is a drug administered for treatment.

12. (New) The iontophoresis system of claim 5, further comprising a glucose sensor in connection with the first and/or second electrode.

13. (New) The iontophoresis system of claim 5, further comprising a general antigen and antibody sensor in connection with the first and/or second electrode.

14. (New) The iontophoresis system of claim 12, wherein the glucose sensor in connection with the first and/or second electrode comprises:

a first sensor electrode,

a second sensor electrode, and

a detector conductively connecting the first sensor electrode and the second sensor electrode.